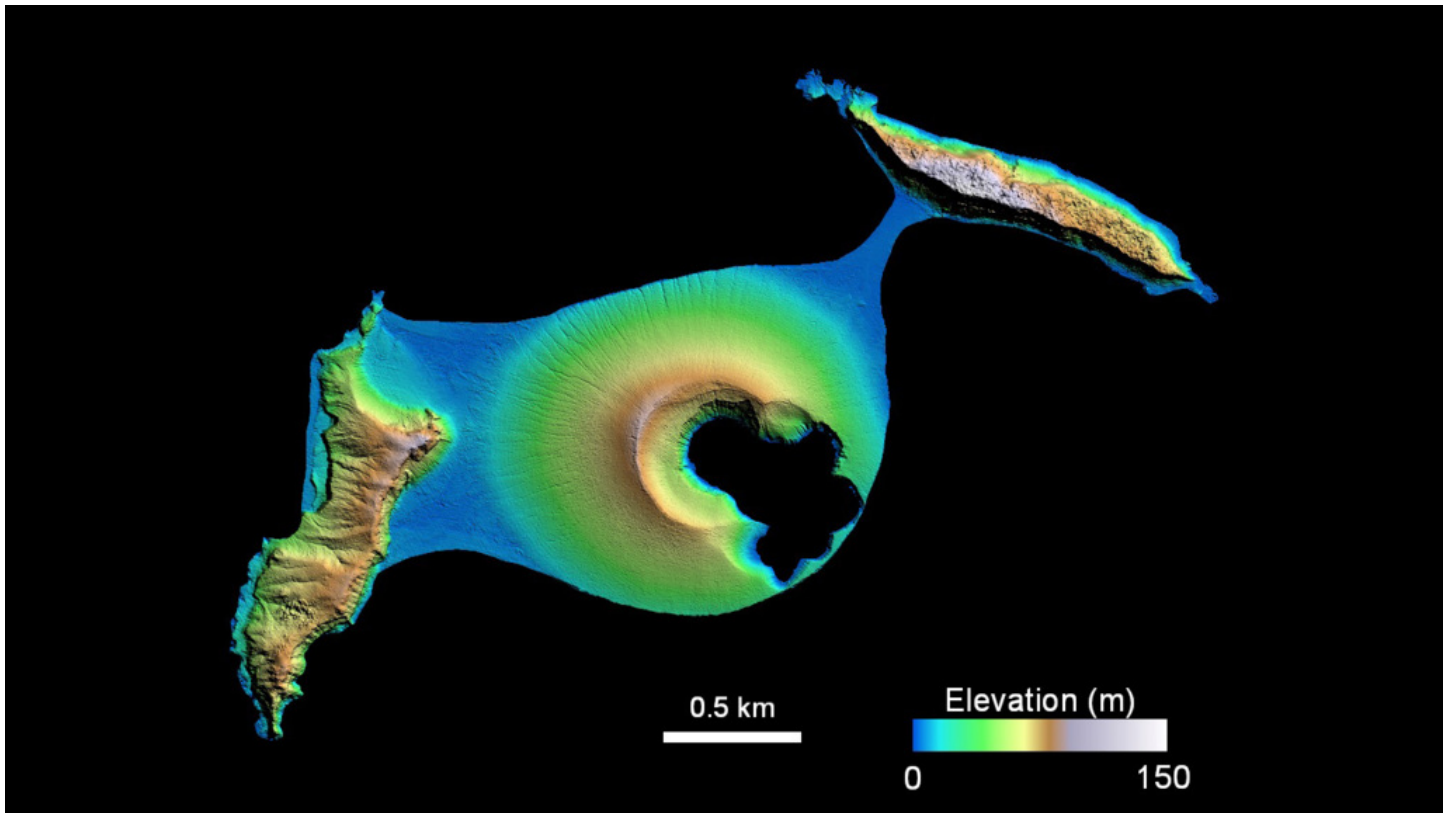

My NASA Data - Mini Lesson

An Island Forms and Changes



Mini Lesson

Explore the underwater Volcanic Island of Hunga Tonga-Hunga Ha'apai found in Tonga in the South Pacific along the highly active Ring of Fire.

Review the short video (multiple times if needed) and answer the following questions:

1. Explore the underwater Volcanic Island of Hunga Tonga-Hunga Ha'apai found in Tonga in the South Pacific along the highly active Ring of Fire by reviewing the [Youtube](#) video.
2. Review the short video (multiple times if needed) and answer the following questions:
 1. Why is NASA interested in studying the Hunga Tonga-Hunga Ha'apai volcano?
 2. What other planet, besides Earth, are the processes at work on this volcano possibly related to?
 3. What major process is causing such rapid change during the three years of being monitored by satellite?

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3. Review the NASA Blog, [Land Ho! Visiting a Young Island](#), to help you answer the questions below:
 1. What evidence do you find for how the volcano 's coastline and size (above sea level) changes over time?
 2. What evidence of erosion and deposition do you observe? Optional: Distribute the before and after images for the island to students to observe.
 - Areas of Erosion -
 - Areas of Deposition -
 4. Extension:
 - Have students review the before and after images and answer the following questions.
 - Use a colored pencil or crayon to color areas of erosion on the original image that eroded.
 - Use a different colored pencil or crayon to color areas of deposition on the original image that were deposited.
 - Use the scale on the image and a ruler to measure and estimate the area of erosion.
 - Use the scale on the image and a ruler to measure and estimate the area of deposition.

Sources:

- [NASA's Scientific Visualization Studio](#)
- Satellite image of the Tongan Island courtesy of Pleiades-1A ©2015 CNES Distribution Airbus DS
- Photo of the tephra cliffs on the island is courtesy of NASA/Damien Grouille/Cecile Sabau

Teachers who are interested in receiving the answer key, please contact MND from your school email address at mynasadata@lists.nasa.gov.

Grade Band

- [3-5](#)
- [6-8](#)

Supported NGSS Performance Expectations

- [5-ESS2-1: Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.](#)

Crosscutting Concepts

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- [Cause and Effect](#)
 - [Scale, Proportion, and Quantity](#)

Instructional Strategies

- [Hook/Engage/Activate prior knowledge](#)
- [I squared \(I²\)](#)

Related Links

- [NASA Earth Expeditions Blog: Land Ho! Visiting a Young Island](#)